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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,358	03/25/2005	Derk Reefman	NL 020908	6173
24737	7590	12/20/2005	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			WAMSLEY, PATRICK G	
			ART UNIT	PAPER NUMBER
			2819	

DATE MAILED: 12/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/529,358

Applicant(s)

REEFMAN ET AL.

Examiner

Patrick G. Wamsley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

Figures 1-3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, "controlling a weight associated with an output of each of the filters" must be shown or canceled from claims 1 and 4. No new matter should be entered.

Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities:

- Page 1, line 18: Change "loopfilter" to -- loop filter --.
- Page 2, line 3: Change "loopfilters" to -- loop filters --.
- Page 2, line 11: Change "Claims" to -- claims --.
- Page 3, line 15: Change "loopfilter" to -- loop filter --.
- Page 3, line 16: Change "loopfilter" to -- loop filter --.
- Page 3, line 24: Change "loopfilter" to -- loop filter --.
- Page 4, line 2: Change "loopfilter" to -- loop filter --.
- Page 4, line 9: Change "reduce" to -- reduces --.
- Page 4, line 11: Change "filter(s) reduces" to -- filters reduce --.
- Page 4, line 13: Change "is show" to -- is shown --.

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Page 4, line 21: Change "reduces for" to -- reduces --.

Page 4, line 26: Change "lowpass" to -- low-pass --.

Page 5, line 20: Change "feeded to" to -- fed to --.

Page 5, line 22: Change "the filters" to -- one of the filters --.

Page 5, line 22: Change "are weighted" to -- is weighted --.

Appropriate correction is required.

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for controlling a weight associated with one parallel filter, does not reasonably provide enablement for controlling a weight associated with an output of each parallel filter. As shown in Fig. 4, an amplifier [46], the "gain device" of claim 1, is only coupled to the high order filter, $H(z)$. While it varies the weight of filter $H(z)$ with respect to $L(z)$, as stated on lines 18-19 of page 3, the amplifier does not weight output signals from both parallel filters.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S.

Patent 5,585,801 to Thurston, hereafter Thurston.

For independent claim 1, Thurston discloses a $\Sigma\Delta$ modulator comprising at least two parallel filters [shown in Fig. 4 on lines 5a and 5b], each receiving an input signal [from 3], and a quantizer [1].

Claim 4 restates the apparatus limitations of claim 1 in method format.

For claims 2 and 5, Thurston provides a feedback path [2].

For claims 3 and 6, one of Thurston's filters is low order [section of 4 on line 5a] while the other filter is high order [combination of 4 and 6 on line 5b].

For claim 7, Thurston provides an input [V_{in}] and an output [V_{out}].

The limitations in claim 1 and 4 regarding "a weight associated with an output of each of the at least parallel filters" have been addressed in the context of the 112(1) rejection. Applicant should respond to this office action by amending the scope of the claims to properly correspond with the specification. Thurston discloses limiting means [7] to prevent the second feedforward path from overloading the main $\Sigma\Delta$ loop, a function broadly interpreted as "weighting."


Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 6,839,012 to Kawamura provides a variable-order $\Delta\Sigma$ modulator. U.S. Patent 6,765,517 to Ali shows a variable order $\Sigma\Delta$ modulator. U.S. Patent 6,556,159 to Fei et al provides a variable-order $\Delta\Sigma$ modulator.

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U.S. Patent 6,362,762 to Jensen et al shows a multiple mode ADC having a single quantizer [Q] and several $\Delta\Sigma$ modulators. U.S. Patent 6,087,969 to Stockstad et al describes a variable-order $\Sigma\Delta$ modulator. U.S. Patents 5,987,484 and 5,777,911 to Sherry et al disclose low bandwidth filters [26] in parallel with wide bandwidth filters [28]. U.S. Patent 4,791,360 to Gagnon et al shows parallel high [54] and low [56] pass filters [col. 5, lines 51-54].

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick G. Wamsley whose telephone number is (571) 272-1814. The official facsimile number is (571) 273-8300. An alternate facsimile number, (571) 273-1814, should only be used for unofficial documents.


Patrick G. Wamsley

December 15, 2005